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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,231	04/22/2005	Naresh Kumar	4137-44	7197
23117	7590	10/17/2007		
NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203			EXAMINER GUDIBANDE, SATYANARAYAN R	
			ART UNIT 1654	PAPER NUMBER
			MAIL DATE 10/17/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/525,231	Applicant(s) KUMAR, NARESH	
	Examiner Satyanarayana R. Gudibande	Art Unit 1654	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 August 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 118-235 is/are pending in the application.
- 4a) Of the above claim(s) 118-141, 143, 147, 149-157 and 159-235 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☒ Claim(s) 148 is/are objected to.
- 8) ☒ Claim(s) 142, 144-146, 158 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

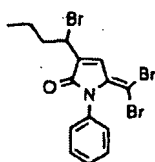
### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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**DETAILED ACTION*****Election/Restrictions***

Applicant's election with traverse of group II invention and election of the following compound,

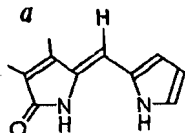


as the species in the reply filed on 8/24/07 is acknowledged. The traversal is on the ground(s) that the structure of the compounds of formula VI (group V) would not be burdensome to search when searching for the elected species and compounds of formula III (group II).

Applicants request to include group V invention for examination on merit is appropriate.

Accordingly, group II and group V inventions will be examined on the merit (claims 142-148 and 158) to the extent that they read on the formulae III and VI.

A search for the elected species indicated that it is free of prior art. The search was extended and art was found on the following compound,



that is used in the rejections as shown below.

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Claims 118-235 are pending.

Claims 143 and 147 have been withdrawn from further consideration as being drawn to non-elected species. The species on which prior art was found (elected species), does not have halogens in the structure as shown above and hence the claims have been withdrawn as being drawn to non-elected species/

Claims 118-141, 149-157 and 159-235 have been withdrawn from further consideration as being drawn to non-elected invention.

Claims 142-148 and 158 are examined on the merit.

### ***Claim Objections***

Claim 142 is objected to because of the following informalities: Claim 142 is drawn to a method of preparing a compound of formula III and is dependent from a withdrawn claim 135 that is drawn to a compound (product) claim. Appropriate correction is required.

Claim 144 is objected to because of the following informalities: Claim 142 is dependent from a withdrawn claim 141. Appropriate correction is required.

Claim 144 will be examined as being dependent on claim 142.

### ***Allowable Subject Matter***

Claim 148 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Claim Rejections - 35 USC § 102***

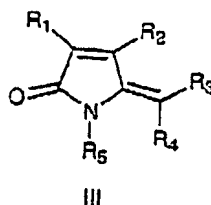
The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 146 and 158 are rejected under 35 U.S.C. 102(b) as being anticipated by Bonnett, 1976, Nature, 262, 326-328.

In the instant application, applicants claim formula III as shown below,



wherein, R1 and R2 are independently selected from H, halogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkoxy, substituted or unsubstituted oxoalkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted aryl or substituted or unsubstituted arylalkyl, optionally interrupted by one or more hetero atoms, straight chain or branched chain, hydrophilic or fluorophilic;

R3 and R4 are independently selected from H, halogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkoxy, substituted or unsubstituted aryl or arylalkyl; and

R5 is selected from the group consisting of H, substituted or unsubstituted alkyl, hydroxy, substituted or unsubstituted alkoxy, substituted or unsubstituted oxoalkyl, substituted or

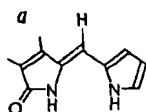
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unsubstituted alkenyl, substituted or unsubstituted aryl or substituted or unsubstituted arylalkyl, optionally interrupted by one or more hetero atoms, straight chain or branched chain, hydrophilic or fluorophilic, or

forms part of an amino acid, or

is a nucleoside, an oligomer, a polymer, a dendrimer, a substrate or a surface.

Bonnett, et al., discloses a compound of the formula,



wherein, R1 and R2 are methyl groups and R3 is hydrogen, R4 is unsubstituted aryl group and R5 hydrogen atom as shown in the above figure that corresponds to the formula III of the instant application and hence meets the limitations of claim 148. Since the Z of the formula VI of claim 158 can be a selected from the group R2, the hydrogen atom of the R2 group meets the limitation of claim 158. Therefore, claims 148 and 158 are anticipated by the cited reference of Bonnett.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

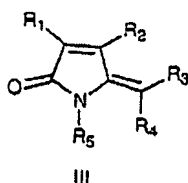
The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 142, 144-146 and 158 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which

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was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In the instant application applicant's claim, formula III as shown below,



wherein, R1 and R2 are independently selected from H, halogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkoxy, substituted or unsubstituted oxoalkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted aryl or substituted or unsubstituted arylalkyl, optionally interrupted by one or more hetero atoms, straight chain or branched chain, hydrophilic or fluorophilic;

R3 and R4 are independently selected from H, halogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkoxy, substituted or unsubstituted aryl or arylalkyl; and

R5 is selected from the group consisting of H, substituted or unsubstituted alkyl, hydroxy, substituted or unsubstituted alkoxy, substituted or unsubstituted oxoalkyl, substituted or unsubstituted alkenyl, substituted or unsubstituted aryl or substituted or unsubstituted arylalkyl, optionally interrupted by one or more hetero atoms, straight chain or branched chain, hydrophilic or fluorophilic, or

forms part of an amino acid, or

is a nucleoside, an oligomer, a polymer, a dendrimer, a substrate or a surface.

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The MPEP clearly states that the purpose of the written description is to ensure that the inventor had possession of invention as of the filing date of the application, of the subject matter later claimed by him. An applicant shows possession of the claimed invention by describing the claimed invention with all of its limitations using such descriptive means as words, structures, figures, diagrams, and formulas that fully set forth the claimed invention. *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572, 41 USPQ2d 1961, 1966 (Fed. Cir.1997). The MPEP lists factors that can be used to determine if sufficient evidence of possession has been furnished in the disclosure of the application. These include, "level of skill and knowledge in the art, partial structure, physical and/or chemical properties, functional characteristics alone or coupled with a known or disclosed correlation between structure and function, and the method of making the claimed invention. Disclosure of any combination of such identifying characteristics that distinguish the claimed invention from other materials and would lead one of skill in the art to the conclusion that the applicant was in possession of the claimed invention is sufficient" MPEP 2163.

The claim as recited encompasses innumerable compounds with variety of variables for each of the R1, R2, R3, R4 and R5 as recited in the claims. Each of the terms that define the variables in the claim is further expanded and defined to include any and all possible variations that define the term recited in the claim, for e.g., the term "alkyl" is further defined in the specification as "[T]he term "alkyl" is taken to mean both straight chain alkyl groups such as methyl, ethyl, propyl, isopmpyl, butyl, isobutyl, sec-butyl, tertiary butyl, and the like. Preferably the alkyl group is a lower alkyl of 1 to 6 carbon atoms. The alkyl group may optionally be substituted by one or more groups selected from alkyl, cycloalkyl, alkenyl, alkynyl, halo,



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carboxyl, haloalkyl, haloalkynyl, hydroxy, substituted or unsubstituted alkoxy, alkenyloxy, haloalkoxy, haloalkenyloxy, nitro, amino, nitroalkyl, nitroalkenyl, nitroalkynyl, nitroheterocyclyl, alkylamino, dialkylamino, alkenylamine, alkynylamine, acyl, alkenoyl, alkynoyl, acylamino, diacylamino, acyloxy, alkylsulfonyloxy, heterocyclyl, heterocycloxy, heterocyclamino, heteroheterocyclyl, alkylsulfonyl, alkylcarbonyloxy, alkylthio, acylthio, phosphorus-containing groups such as phosphono and phosphinyl". Thus each of the other terms such as 'alkoxy', 'alkenyl', 'acyl', 'aryl', etc., are further defined on pages 24 and 25 of the specification. Thus, the claim as recited and the specification as disclosed encompasses multitude of compounds. However, the claim 148 recites structure of 9 compounds that correspond to formula III and specification discloses 8 compounds that correspond to formula VI. The number of compounds as recited in claims and disclosed in the specification is vastly inadequate to commensurate with the scope of the claims. There are no compounds either recited nor disclosed that corresponds to for e.g., R1, R2, R3 and R4 are substituted or unsubstituted aryl moiety, or substituted or unsubstituted arylalkyl optionally interrupted by one or heteroatom, etc. The MPEP does state that for generic claim the genus can be adequately described if the disclosure presents a sufficient number of representative species that encompass the genus. MPEP 2163. If the genus has a substantial variance, the disclosure must describe a sufficient variety of species to reflect the variation within that genus. See MPEP 2163. Although the MPEP does not define what constitute a sufficient number of representative species, the Courts have indicated what do not constitute a representative number species to adequately describe a broad generic. In Gostelli, the Court determined that the disclosure of two chemical compounds within a subgenus did not describe that subgenus. In re Gostelli, 872 F.2d at 1012, 10 USPQ2d at 1618.

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The claim further recites that the compound of formula III forms part of an amino acid, is a nucleoside, an oligomer, a polymer, a dendrimer, a substrate or a surface. The claims as recited and the specification as disclosed is inadequate in terms of providing complete or partial structural characteristics of the formula III wherein it is part of an amino acid or it is a nucleoside.

Thus, the claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 142 and 144-146 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 142 and 144-146 are drawn to a method of preparing a compound of formula III, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a method without any active, positive steps delimiting how this method is actually practiced.

### ***Information Disclosure Statement***

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

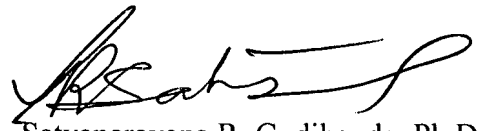
### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Satyanarayana R. Gudibande whose telephone number is 571-272-8146. The examiner can normally be reached on M-F 8-4.30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cecilia Tsang can be reached on 571-272-0562. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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